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ABSTRACT

This paper reviews and summarizes six research projects exploring possible methods for teaching vocation-oriented social skills to adolescent students with mild learning disabilities, behavioral disorders, or mental retardation. Projects discussed vary in terms of target social skills, intervention methods, settings, and generalizability. The six studies addressed: (1) behavior rehearsal with students who have learning disabilities; (2) problem solving, modeling, and role playing with students who have learning disabilities; (3) problem solving, modeling, and role playing with students who have mental retardation; (4) combined techniques with students who have mental retardation; (5) role playing and self-monitoring with students who have behavior disorders; and (6) combined techniques with multi-categorical students. A call is made for a comprehensive synthesis of proven methods to facilitate employment success among mildly disabled adolescents. Includes 53 references. (PB)

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CAN SOCIAL SKILLS FOR EMPLOYMENT BE TAUGHT?

USING COGNITIVE-BEHAVIORAL PROCEDURES WITH ADOLESCENTS WITH MILD DISABILITIES

For individuals with mild disabilities--learning disabilities, behavioral disorders, and mental handicaps--the prospects of finding and retaining a job are discouraging. In 1983, approximately 50% to 75% of adults with disabilities were unemployed (U.S. Commission on Civil Rights). Follow-up studies of adults with mild handicaps in Vermont (Hasazi, Gordon, & Roe, 1985) and Florida (Fardig, Algozzine, Schwartz, Hensel, & Westling, 1985) reported figures of 45% and 50% respectively. Similarly, a recent Harris poll (*A National Survey of Disabled Americans*, 1987) found that two-thirds of all people with disabilities between the ages of 16 and 64 were not working. More recent follow-up studies of special education graduates (Edgar, Levine, Levine, & Dubey, 1988, as cited in Edgar, 1990) show that 6 months after high school graduation, only 56-68% of individuals with learning disabilities were employed; 35-46% of individuals with mild mental retardation were employed; and 57% of individuals with behavior disorders were employed. Two years after graduation, these figures increased to 78%, 58%, and 59%, respectively, but the percentages of individuals earning at least the minimum wage were only 32%, 10%, and 20%, respectively.

From a special educator's perspective, designing instructional approaches that better prepare students for competitive employment is of paramount concern. Of equal importance is discovering strategies that will assist students in obtaining and retaining jobs. The professional literature has documented the importance of social skills in finding and keeping a job. Further, recent research studies have identified a number of training procedures that have proven to be successful in developing social skills for employment in individuals with mild disabilities. Gainful employment is a key indicator of quality of life in this society, and special educators must continue to seek out and apply procedures and interventions that will ensure the success of their students.

WHAT ARE SOCIAL SKILLS?

Social skills definitions have been criticized for being broad and nonspecific (Bernstein, 1981). As Eisler (1976) points out, there are no social skill definitions that are universally accepted or applicable to all situations. In reviewing the literature on social skills research with individuals with mental retardation, Schloss, Schloss, Wood, and Kiehl (1986) determined that prevalent social skills definitions either relied on a broad reference to the social competence domain, or identified discrete, situation-specific responses. Similarly, McFall (1982) identified two major ways in which the concept of social skills has been used: (1) the trait model, which views social skills as underlying characteristics; and (2) the molecular model, which views social skills as discrete, situation-specific behaviors. McFall believed that both of these conceptualizations were inadequate and proposed a two-tiered model of social competence and social skills (Schlundt & McFall, 1985): "[social competence] involves a value-based judgment by an observer concerning the effectiveness of an individual's performance in a specific task...social skills are the specific component processes that enable an individual to behave in a manner that will be judged as *competent*." (p.23)

Implicit in this definition is the situation-specific nature of social skills. Rusch (1979) exemplified this notion in his definition of social-vocational survival skills--behaviors that increase the likelihood of successful competitive employment in any vocational setting. He went on to classify such social-vocational skills as independently managing one's activities, meeting minimal cleanliness and dress requirements, and communicating basic understanding of directives to continue or discontinue an activity.

VOCATIONAL SURVIVAL

A crucial ingredient in employment success is developing adequate work habits and personal social skills (Neuhaus, 1974; Storey & Mank, 1989; Stowitschek & Salzberg, 1982). In fact, two recent reports describing the training needs of United States workers in the 21st century (American Society for Training and Development, 1989; Carnevale, Gainer, & Meltzer, 1988) identified communication skills, problem solving, interpersonal skills, teamwork, and personal management as *basic* work skills.

In the professional literature, a body of evidence has accumulated suggesting that job termination and on-the-job difficulties are often associated with personal and social difficulties, rather than an inability to perform assigned tasks (Chadsey-Rusch, 1986; Clark & Knowlton, 1987; Foss &

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Peterson, 1981; Gable, 1984; Greenspan & Shoultz, 1981; Hastings, Hill, & Kindinger, 1983; Rusch, McNair, & DeStefano, 1988; Salzberg, Lignugaris/Kraft, & McCuller, 1988; Salzberg, Likins, McConaughy, & Lignugaris/Kraft, 1986). In fact, a recent study found that over two-thirds of all problems encountered by workers with mild disabilities were related to work adjustment skills, a category that included social skill deficits (Neubert, Tilson, & Ianacone, 1989).

A needs assessment of adults with learning disabilities, sent to 948 service providers and 212 advocates, also suggested that social skill deficits can result in problems on the job (Hoffman et al., 1987). In a study of 25 employers of individuals with mental disabilities, Burton and Bero (1984) found that the majority of employers' concerns centered on employees' lack of certain personal and social skills. This finding is similar to Chamberlain's (1988) finding that employers of individuals with severe disabilities ranked "getting along with others" as the top factor in job success.

Individuals with disabilities have also identified the need for social skills training. In a survey of 50 successfully employed individuals with disabilities, 82% identified their high school preparation in social skills as specifically useful in helping them maintain success in their current employment (Hudson, Schwartz, Sealander, Campbell, & Hensel, 1988). There also appears to be a congruence between the perceptions of successfully employed individuals with disabilities and their employers regarding the importance of job-related social skills to their current success on the job (Campbell, Hensel, Hudson, Schwartz, & Sealander, 1987).

Observational studies provide more detail on the social interactions of employees with disabilities. Chadsey-Rusch, Gonzalez, and Tines (1988) found that while there was no difference in the rate or frequency of interactions between successfully employed workers with mental retardation and their nondisabled coworkers, the workers with disabilities tended to interact less on non-job related matters--the content of their interactions tended to be job-specific and not social in nature. In another study, Cheney and Foss (1984) examined the behaviors of workers who were mentally retarded (N = 18), and those of their nondisabled supervisors and co-workers. Their situational analysis of the data suggested that typical social skill problem areas include problems with supervisors (e.g., accepting criticism, requesting assistance, following instructions, and accepting new supervisors), problems among co-workers (e.g., teasing, provoking), and disruptive social behavior (e.g., excessive talking or laughing, inappropriate conversation, bizarre behavior). In still another observational study of three disabled and three nondisabled workers, Test, Farebrother, and Spooner (1988) concluded that the most critical workplace social skills appear to be following directions, asking questions, providing information, accepting appropriate joking and teasing, and coping in a low-praise environment.

PROCEDURES FOR DEVELOPING SOCIAL SKILLS

Social learning theory emphasizes the role of both cognitive and environmental influences in determining behavior. Over the last decade, there has been a growing interest in the use of cognitive-behavioral techniques to teach social skills (Davies & Rogers, 1985; Gresham, 1981; Gresham & Lemanek, 1983). Included under the rubric of cognitive-behavioral techniques are modeling, coaching, behavior rehearsal or role-playing, social problem solving, and self-control training, or self-monitoring. These terms are defined as follows:

Modeling - a model demonstrates the skill to be learned, and the observers are asked to reproduce the desired behaviors. As modeling is not sufficient by itself to effect change, it must be combined with other methods that teach students how to perform the desired behaviors and why they should do so.

Coaching - the trainer participates in the natural environment to guide and provide feedback on appropriate social action. Modeling, prompting, and behavior rehearsal may be used to elicit appropriate behavior.

Behavior Rehearsal - a form of role playing in which the responses of the students are constrained through instruction and feedback so that only correct behaviors are practiced. Students are not asked to take on a role and behave as someone in that role would behave; rather, they are asked to practice skills in a supportive environment.

Role Playing - a rehearsal procedure using simulated situations.

Problem Solving - students discuss a specific problem and are taught to discriminate between effective and ineffective behaviors which pertain to the problematic situation.

For more information refer to D'Zurilla and Goldfried (1971) and Spivack, Platt, and Shure (1976).

Self-Control Training - a procedure for teaching the student the antecedents and consequences of a behavior and a process for applying that information to control his or her own behavior.

Self-Monitoring - a type of self-control procedure in which one assesses one's own behavior.

According to Gresham (1985), the advantage of cognitive-behavioral strategies over operant techniques has been their potential for increasing generalization and maintenance of trained behaviors.

Although a number of studies have considered the effects of these strategies on developing work-related social skills in individuals with moderate to severe developmental disabilities (see Siegel et al., 1990 for a review of research), few studies have considered their effects on mildly disabled groups. Following are selected studies that consider the effects of cognitive-behavioral strategies on the development of job-related social skills. The reader should be aware that social skills definitions may vary from study to study. Table 1 contains a summary of the studies and their results.

BEHAVIOR REHEARSAL WITH STUDENTS WHO HAVE LEARNING DISABILITIES

Whang, Fawcett, and Mathews (1984) analyzed the effects of a training method utilizing behavior rehearsal on the development of job-related social skills in two high school students with learning disabilities. The social skills chosen for training--accepting criticism, providing constructive criticism, explaining a problem, accepting instruction, and giving and accepting compliments--and the discrete behaviors they involved had been identified in a previous study (Mathews, Whang & Fawcett, 1980).

Training took place in a setting apart from work. An average of 35 minutes was required for each of the six training sessions. During training, students read and responded to prepared materials, practiced the behaviors with the instructor, and received corrective feedback. Students repracticed the behaviors until they performed the skill with 100% accuracy during two consecutive practice situations.

Authors (date)	Montague (1988)	Whang, Fawcett, & Mathews (1984)	Foss, Auty, & Irvin (1989)	Park & Gaylord Ross (1989)	Roessler & Johnson (1987)	Warrenfeltz, Kelly, Salzberg, Beegle, Levy, Adams, Crouse (1981, 1983)
Subjects*	*n* = 49 LD,BD,MR Adolescents	*n* = 2 LD Adolescents	*n* = 122 MR Adolescents	*n* = 3 MR Adolescents	*n* = 22 LD Adolescents	*n* = 4 BD Adolescents
Target Social Skills	Understanding instructions, asking questions, asking for help, accepting criticism, ordering job responsibilities, accepting assistance, giving instructions, offering assistance, apologizing, convincing others	Accepting criticism, providing criticism, explaining problem, accepting instruction, providing & accepting compliments	Handling criticism and correction, requesting assistance & following instructions, cooperating, handling teasing, resolving personal concerns	Reducing mumbling, increasing social initiations, conversational expansions & terminations	Interpreting place & situation cues, receiving & sending people cues, using self-messages, coping behaviors	Handling responses to instruction, critical feedback & conversation
Intervention Procedures	Modeling, verbal rehearsal, role playing, feedback, instruction, cueing	Instruction, practice, corrective feedback	Modeling, behavioral rehearsal, problem solving	Role playing, corrective feedback, problem solving	Instruction, problem solving, modeling, role playing	Role playing, self-monitoring
Setting for Intervention	Classroom	Setting apart from work	School classrooms	Setting apart from work	Seminar	Classroom
Generalization to work setting	Anecdotal data suggests generalization to work setting	Yes	Not studied	Yes	Not studied	Generalized to vocational work classroom
Results	Effective in teaching social skills in simulated situations; anecdotal data suggests generalization to work site	Successful in increasing skills	All methods effective in increasing knowledge; combination of video modeling & problem solving most effective	Problem solving led to generalization and maintenance in work setting; role play led to acquisition of skills, but did not lead to generalized learning	Subjects were successful in acquiring skills and were rated higher by experts on social competence & employability	Verbal training & role playing resulted in acquisition of skills; addition of self- monitoring led to generalization

* LD = Learning Disability; BD = Behavior Disorder; MR = Mental Retardation

TABLE 1. SUMMARY OF RESEARCH STUDIES IN THIS SYNTHESIS

Larger version of this table is appended.

The effects of the training on the job-related social skills were analyzed using a multiple-baseline design across skill categories. Results suggest that the training procedures were effective in increasing the job-related social skills. A follow-up observation 4 weeks later indicated that the performance of skills declined over time, yet remained above baseline levels. Observations at work indicated that increases in social skills generalized to the actual work setting.

PROBLEM SOLVING, MODELING, AND ROLE PLAYING WITH STUDENTS WHO HAVE LEARNING DISABILITIES

Roessler and Johnson (1987) studied the effects of a vocational coping program on the development of social skills in 24 adolescents with learning disabilities. Their study addressed appropriate responses to supervisor and co-worker demands, including interpreting place and situation cues, receiving and sending people cues, using helpful self-messages, and coping behaviors.

Participants were taught to interpret data from the setting and the people in it, and to identify their own thoughts and feelings. They then applied a problem-solving model to hypothetical vocational problems: interpreting the situation, enumerating options, considering outcome anticipations, and responding. Finally, through modeling and role-playing, participants learned to perform desirable criterion behaviors in relation to common work demands. Videotapes were used to engage participants in role-playing appropriate social responses.

A pretest/posttest experimental design was used. Both groups attended a summer enrichment program where they completed nine sessions of didactic instruction on interpersonal skills for employment. The experimental group then completed an additional 23 hours of treatment, while the control group took a personal development seminar. Results showed that the experimental group acquired more social skills than did the control group, and were rated significantly higher on social competence and employability.

PROBLEM SOLVING AND ROLE PLAYING WITH STUDENTS WHO HAVE MENTAL RETARDATION

A study conducted by Park and Gaylord-Ross (1989) examined the effects of two training procedures, problem solving and role playing, on the social behaviors of three adolescents with mental retardation in work contexts. Three problem behaviors for each participant were identified from suggestions by co-workers and supervisors, and observations by the researcher. Reducing mumbling, increasing social initiations, and expanding conversations were selected for one subject; initiations, expansions, and conversational terminations were selected for the other two subjects. All training took place in rooms apart from the work setting, with each session lasting about 30 minutes.

In role-play training, the instructor presented an illustration of a situation that called for an appropriate social behavior and asked what a person was supposed to do. For example, "A worker comes to get some perm solution in the lab when you are working there. What are you supposed to do or say when you see the person?" For correct responses, the instructor provided verbal praise and stated the rationale for the appropriate behavior. Then the instructor and participant role-played that behavior (e.g., greeting). The instructor gave positive feedback for correct role-playing responses. For incorrect responses, the instructor provided the correct response and its rationale. The instructor then modeled the behavior, followed by a role play in which the instructor took a co-worker role.

The problem-solving intervention incorporated the elements of decoding, decision, performance, and evaluation. It consisted of a pretest, training, and a posttest. During the pretest, the instructor showed a picture of a social situation. The participants were asked how they would behave in that situation. If the response was correct, they were then asked to explain the problem-solving process they went through to arrive at the response: decode what is happening, describe available choices for behaviors, test each alternative behavior, evaluate and choose best alternative behavior, select and emit the behavioral response, evaluate responses to the chosen behavior, and identify personal feelings. If participants missed any of the problem-solving steps, the instructor explained the correct response and had the participant practice on several additional trials. The posttest consisted of repeating the pretest.

A multiple baseline design across response classes was employed for each participant. Additionally, social validation was addressed by co-worker and supervisor questionnaires. For the three participants, problem-solving training led to substantial generalization and maintenance of social behaviors in natural work settings. However, role-play training failed to generalize. The researchers hypothesized that role-playing might be successful with more training time (i.e., overlearning) and with multiple instructors who more closely approximated the characteristics of the co-workers.

COMBINED TECHNIQUES WITH STUDENTS WHO HAVE MENTAL RETARDATION

The comparative impact and classroom utility of four different procedures for teaching employment-related interpersonal skills to 122 secondary students with mild mental retardation was examined by Foss, Auty, and Irvin (1989). The procedures included teacher modeling, videotape modeling, behavior rehearsal, and problem solving.

The researchers selected target behaviors that had been found to be critical to employment success (Cheney and Foss, 1984). The target behaviors included problems with supervisors such as handling criticism and correction, requesting assistance, and following instructions, and problems with co-workers such as cooperating, handling teasing and provocation, and resolving personal concerns.

Training took place in school classrooms and was conducted by special education teachers. For this study, the teacher served as the model in one treatment. In the other treatment, drama students assuming the role of co-workers modeled the behaviors via a videotaped presentation. All students received 6 weeks of bi-weekly training sessions for a total of 12 sessions. Participants each received one of four types of training procedure: teacher modeling and problem solving; teacher modeling and behavioral rehearsal; videotape modeling and problem solving; or videotape modeling and behavioral rehearsal.

The primary outcome measure used was the *Test of Interpersonal Competence for Employment* (Foss, Cheney & Bullis, 1986). Pre- and posttests were examined using analysis of variance techniques. The results demonstrated that all of the methods are, to some extent, effective in increasing student knowledge of the content. The problem-solving approach was found to be more effective than the behavior rehearsal procedure. The combination of the videotape modeling with problem solving was the most successful combination, while the combination of teacher modeling and behavior rehearsal was least successful.

ROLE PLAYING AND SELF-MONITORING WITH STUDENTS WHO HAVE BEHAVIOR DISORDERS

Four adolescents with behavioral disorders in a short-term residential treatment center participated in a vocationally oriented social skill training program designed to teach them appropriate responses to instruction, critical feedback, and conversation (Warrenfeltz et al., 1981). The training methods under study included role-playing and self-monitoring.

Training took place in classrooms during 30-minute teaching sessions 4 days each week. Training included a two-step sequential process in which didactic training was immediately followed by role-play and self-monitoring instruction. Role-play sessions were videotaped and students were taught a rating system for analyzing the appropriateness of their role-play responses. This rating procedure served as the self-monitoring treatment. Teachers provided feedback and intermittent praise following student responses.

Students were then expected to demonstrate the behaviors in the vocational workroom, which was housed on the premises of the residential center. In one case the social skill behavior did not generalize initially, and the supervisor was instructed to tell the student when one of the antecedent events had occurred and how the student's response should be scored on the self-monitoring rating sheet.

A multiple baseline design across two pairs of subjects was used. Observational data were collected at both the intervention and generalization sites. Results indicate that while didactic training alone had little effect on the students' interaction with their work supervisor, the use of role playing in combination with the self-monitoring technique produced a rapid effect which generalized to the work setting for three of the four students. A subsequent manipulation, in which the work supervisor prompted the student through a self-monitoring process at the generalization site, resulted in improved interpersonal behavior for this student.

The researchers repeated this study but isolated the effects of the role-playing and self-monitoring procedures (Kelly et al., 1983). Their results with four adolescents with behavioral disorders suggest that verbal training and role playing result in rapid acquisition of appropriate social responses at the intervention site, but did not generalize to the work site. The addition of self-monitoring resulted in rapid generalization. They concluded that verbal training and role playing appear to be a primary contributor to response acquisition, whereas self-monitoring appears to facilitate response generalization.

COMBINED TECHNIQUES WITH MULTI-CATEGORICAL STUDENTS

In an investigation of the initial and long-term efficacy of job-related social skills instruction for adolescents with a variety of mild to moderate handicaps, Montague (1988) hypothesized that the students could learn the skills, apply the skills in work settings, and maintain the use of these skills over time. Derived from the professional literature and discussions with employers, the skills chosen for instruction included understanding instructions, asking a question, asking for

help, accepting criticism, ordering job responsibilities, accepting assistance, giving instructions, offering assistance, apologizing, and convincing others.

Forty-nine students from learning disabilities, behaviorally disordered, or mentally handicapped programs were assigned to classroom groups for instruction by the researchers. Social skill instruction consisted of 30 sessions over a 10-week period. A curriculum of 10 scripted lessons was developed for the instructional phase (Montague & Lund, 1990). Teaching procedures included modeling, active participation, questioning, verbal rehearsal, cueing, visualization, role-playing, guided practice, performance feedback, reinforcement, and criterion testing. Students were taught one skill and were tested for skill attainment over a 3-day period each week. On the first day, students were instructed in the job-related social skill. They were given cue cards listing the skill steps and told to memorize them for the next class. Practice sessions, held on the second day, utilized role-play simulations. Corrective and positive feedback regarding students' performance was provided. Posttesting and skill attainment occurred on Day 3.

A job social skills inventory, which included observations of behaviors being performed by participants, was used to collect pre-, post- and follow-up test data. Results demonstrated that the training methods were successful in teaching the students the job-related social skills, and that students could use the skills effectively in simulated situations that reflected actual work environments. While this study stopped short of measuring transfer and maintenance of skills in work environments, anecdotal data indicated that there is promise for generalization of skills acquired in classroom settings to natural work environments.

CONCLUSION

The findings of the selected studies presented above show promise for the use of cognitive-behavioral techniques in developing job-related social skills in adolescents with mild to moderate disabilities. While any technique alone does not seem to ensure generalization of learned behaviors, *combinations* of techniques appear to increase the probability for maintenance and generalization. An area that needs further research is the incorporation of these techniques into training provided in the work setting.

There remains a critical need for a conceptual system that would define social skills across social contexts and chronological age levels. As Schloss and Schloss (1985) assert, such a comprehensive system would assist practitioners in establishing training priorities, promote a systematic line of investigation, and further clarify the minimum social competencies required to function in successively less restrictive environments.

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TABLE 1. SUMMARY OF RESEARCH STUDIES IN THIS SYNTHESIS

	Montague (1988)	Whang, Fawcett, & Mathews (1984)	Foss, Auty, & Irvin (1989)	Park & Gaylord-Ross (1989)	Roessler & Johnson (1987)	Warrenfeltz, Kelly, Salzberg, Beegle, Levy, Adams, Crouse (1981, 1983)
Subjects*	*n* = 49 LD,BD,MR Adolescents	*n* = 2 LD Adolescents	*n* = 122 MR Adolescents	*n* = 3 MR Adolescents	*n* = 22 LD Adolescents	*n* = 4 BD Adolescents
Target Social Skills	Understanding instructions, asking questions, asking for help, accepting criticism, ordering job responsibil-ities, accepting assistance, giving instructions, offering assistance, apologizing, convincing others	Accepting criticism, providing criticism, explaining problem, accepting instruction, providing & accepting compliments	Handling criticism and correction, requesting assistance & following instructions, cooperating, handling teasing, resolving personal concerns	Reducing mumbling, increasing social initiations, conversational expansions & terminations	Interpreting place & situation cues, receiving & sending people cues, using self-messages, coping behaviors	Handling responses to instruction, critical feedback & conversation
Intervention Procedures	Modeling, verbal rehearsal, role playing, feedback, instruction, cueing	Instruction, practice, corrective feedback	Modeling, behavioral rehearsal, problem solving	Role playing, corrective feedback, problem solving	Instruction, problem solving, modeling, role playing	Role playing, self-monitoring
Setting for Intervention	Classroom	Setting apart from work	School classrooms	Setting apart from work	Seminar	Classroom
Generalization to work setting	Anecdotal data suggests generalization to work setting	Yes	Not studied	Yes	Not studied	Generalized to vocational work classroom
Results	Effective in teaching social skills in simulated situations; anecdotal data suggests generalization to work site	Successful in increasing skills	All methods effective in increasing knowledge; combination of video modeling & problem solving most effective	Problem solving led to generalization and maintenance in work setting; role play led to acquisition of skills, but did not lead to generalized learning	Subjects were successful in acquiring skills and were rated higher by experts on social competence & employability	Verbal training & role playing resulted in acquisition of skills; addition of self- monitoring led to generalization

* LD = Learning Disability; BD = Behavior Disorder; MR = Mental Retardation.